Heathro Fish Pump

User Manual

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1. Warranty Terms of Heathro Fish Pump

VAKI Aquaculture Systems Ltd. endorses responsible for defects occurring within one (1) year after delivery by VAKI or its reseller, provided that the equipment is installed, used and maintained in accordance with instructions for assembly and use.
VAKI undertake to repair defects caused by construction or material faults arising in the fabrication of the equipment. Defects mentioned above will be repaired or replaced with new ones. The equipment must be returned to the manufacturer or his authorized representative for repair.
VAKI imposes liability for original parts are used as substitutes for a period of one (1) year from date of delivery.

VAKI is not responsible for:

- Incorrect installation and use, or improper care and maintenance.
- Defects caused by parts or materials, components or equipment not supplied by VAKI and are obtained and installed or used by the customer without prior written approval from VAKI.
- Defects caused by modifications to the equipment made by the customer without the written consent of VAKI.
- Improper or unauthorized repairs made by the customer.
- Normal wear and tear on equipment.
- Improper connection of electric / hydraulic equipment.
- Defects caused by power surges.
- Damage to electrical cables.
- Economic losses caused by the equipment is out of service.

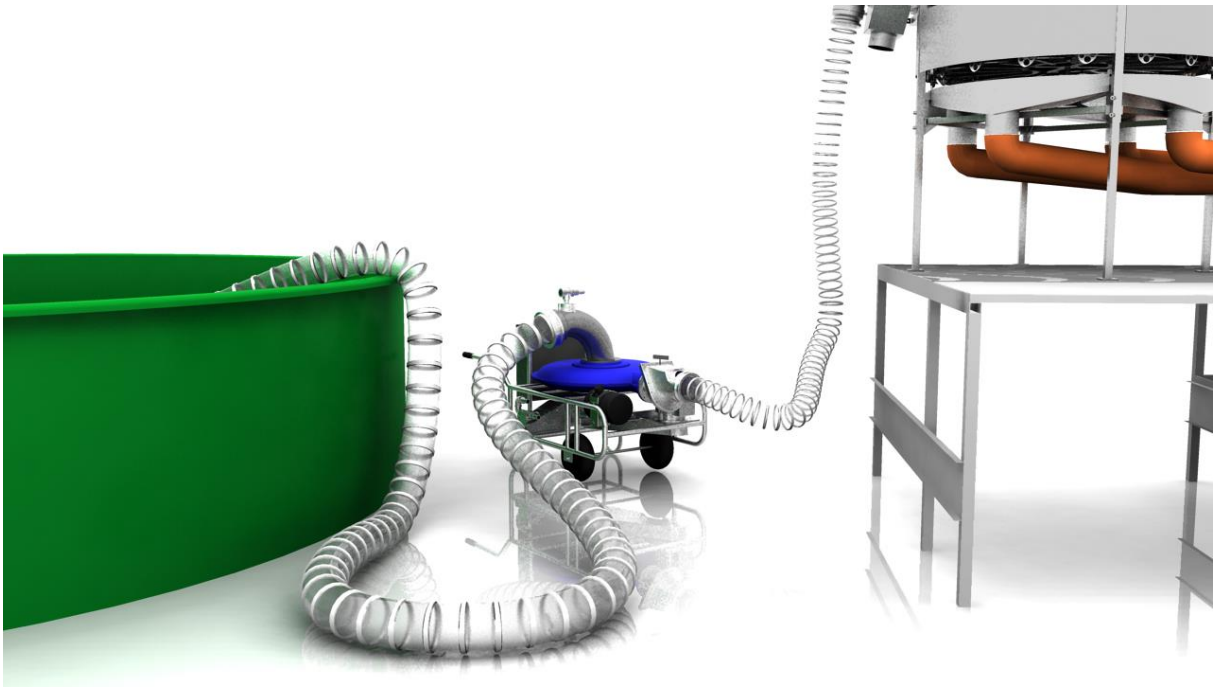
If errors or defects occur on the equipment, the customer must report as soon as possible and without unreasonable delay to VAKI or his representative. Such report must be submitted no later than two (2) weeks after the guarantee period, one (1) year after delivery.
If the customer does not inform VAKI or his authorized representative within the time limits stated above, the customer will not be entitled to compensation for errors or defects. Repairs to equipment shall be made in accordance with the conditions stated above.

2. Neighborhood

Heathro Fish pump is designed to work in all weather, except at temperatures below 0 ° Celsius. Use in cold weather can cause damage to hoses and priming system. Heathro pump is built on the wagon with 2 large rubber wheels that can carry up to 400 kg per wheel, this allows the pump to move over rough and uneven surfaces. The pump is designed to move the fish up to 400 g (salmonids). It is not suitable to pump pebbles or sand.

Electrical needs

An electrical expert must ensure that appropriate socket is on cable.



3. Explanation of Parts

Heathro Fish pump is made of aluminum and fiberglass and provides a very good treatment of fish during transport. The pump is 6 "but can be narrowed down to 5", 4 "or 3" with transitions. The pump is available in three versions, an electronic which is the usual in Norway, but also hydraulic and petrol-driven. With great handles and large rubber wheels, the pump is easy to move there is need. Camlock quick couplings used to obtain a simple and safe connection of hoses.

3.1 The cochlea

Heathro pump is a pump and shells made from specially molded form, developed by the Canadian praque Supplies. They have over 20 years experience in the development and production of various products made of fiber glass. Inside the casing there is an impellor / paddle aluminum leading fish and water through the pump. The speed can be adjusted as required, either directly on the pump or by remote control.

3.2 Main engine

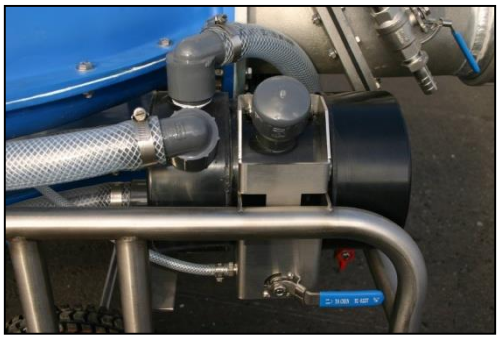
The main motor drives the agitator with two straps under the pump. This engine is 4kW and is controlled by a frequency converter (Altivar 31). Thus, it becomes easy to regulate the engine speed as required. If viring the socket used for the pump is inverted so the circuit breaker will turn the power off so the engine has not been turned the wrong way.

3.3 Priming motor

Priming the motor used for turning priming pump that causes the suction created within the pump and the main engine can be started. This motor is 1.5 kW and has no rotation protection. If viring the socket used for the pump is inverted so the circuit breaker will turn the power off so the engine has not been turned the wrong way.

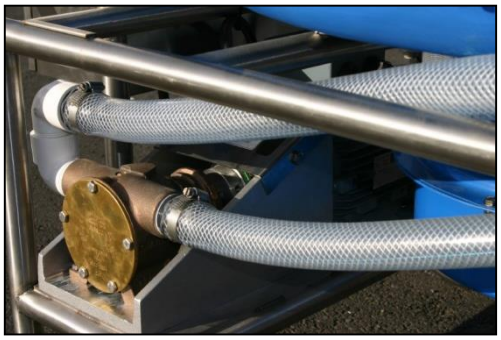
3.4 Priming tank

Priming tank is filled with water before starting the pump and the water in this tank is used to create suction in the system. When water starts flowing out of the attack as the main motor is started. Two cranes sit nedenpå tank, one to empty the priming tank and the other to clear the actual pump housing. If the pump is out in freezing temperatures can cause damage if it is not drained after use.



3.5 Priming pump

Priming the pump is connected to the motor by a shaft. On this shaft there is a link that is easy to replace if necessary (see photo below). The motor is drawing a arrow showing which direction it should be reversed. It is important to empty the priming pump for water if there is danger of frost.



3.6 Control cabinet

Control Board has seven buttons and lights. The bottom is the main power button and can only be turned on if the cabinet is closed. Two buttons (on and off) for priming the pump and two buttons (on and off) for the main pump. It is well possible to drive the priming pump while driving the main pump. The black button controls the speed of the main pump and the red light shows if there is power to the pump or not. The sensitivity of the speed button can be adjusted as follows:

1 Turn off the power at the main switch and open the door of the control cabinet. The door can not be opened without the main switch is turned off.
2 Turn on the power in the cabinet by turning the white shaft of the main switch clockwise. It is now current in all components of the closet, so avoid contact with live parts.
3 The Altivar 31 has four buttons and a screen. It should now be rdY the screen. It is an up and a down button on the left side and esc and ent knappåhøyresiden of the screen.
4 Press (Ent) once and "Set" appears on the screen.
5 Press (Ent) again and the "ACC" will appear on the screen.
6 Press (Ent) again and the value displayed on the screen. ACC is adjusted to 3.0 from the factory. This value indicates how many seconds the drive to use from stop to full speed. If a value that increases it will become easier and fine adjust speed
7 Use the up / down arrows to adjust to the desired time. Factory setting 3.0, corresponding to 2.4 Hz per press of the remote control increased to 6.0s reduced every step to 1.2 Hz. Altivar 31 adjusts from 0 to 50 Hz
8 Press (Ent) to save the new value.
9 Press (Esc) to return to the "ACC"
10th Press down arrow to scroll to "dEC" does the same as the ACC, but this time set the drive to use from full speed to stop.
11th Press enter and the value of dEC will appear on the screen.
12th Adjust to the desired value. The value of ACC and dEC need not be equal. If desired, one can have finjustereing the ACC to run slowly speed up while a coarse adjustment has on reducing speed.
13th Press (Ent) to save.
14th Press (Esc) button repeatedly until 'rdY "on screen
15th Test the new setting and adjust if necessary (Section 4-14)
16th When the adjustment is complete the power is turned off by turning the white shaft of the main switch counterclockwise.
17th The door of the cabinet is closed.

3.7 Remote Control

Wireless remote control is optional and highly recommended. With this you can start and stop the priming pump and the main pump, and control the speed of the main pump. (see page 10 of the manual) Inside the control box mounted remote control and the cabinet there is a dish for good contact with the håndheldte device. It must be recharged with the battery charger supplied.

3.8 Cranes

On top of the swan neck there is a crane, this is used to solve vacum formed on the suction side. If the hose sucks getting stuck, it's easy and open the tap and then get the air into the system and loose vacum. On the output side, there is another crane, applied for and discharge hose for water and relieve the pressure before the hose is removed from the pump.

3.9 Transitions

There are different sizes of transitions and connections with Heathro fish pump. Camlock system is used for quick and safe connection of hoses. These are standard size is 6 "and 4" but 5 'and 3' can also be ordered. The transitions are designed so that there are no sharp edges and the fish has a very gentle treatment during pumping. Ensure that the rubber gasket is in place so not the air is sucked to the suction side.

3.10 Parts Pack

Many customers choose and buy a spare part package consisting of key parts that can be easily replaced.

1 coupler element
2 Cover of the coupler element
3 Impellor for the Jabsco pump priming
4 Adapter ring for the motor
5 Jabsco shaft seal
6 EDPM rubber check valve gasket and the aluminum plate
7 Drive belt (2 pcs.)
8 Jabsco gasket

3.11 Rubber Wheel

Heathro fish pump is on large rubber wheels so it's easy to move it over uneven terrain. Make sure the air pressure is equal on both wheels and fill grease cups regularly.

4. Use of Heathro Fish Pump

Heathro fish pump is available in three versions, electric, gas and hydraulic.

4.1 Electric model

Before you start the fish pump.

1 Make sure the main motor and priming motor is turned off.
2 Fill priming tank with water until it is full.
3 Ensure control cabinet is closed and turn on the main switch.
4 Check the main light illuminates on the control cabinet.
5 Make sure the valve on top of the swan neck is closed.
6 Make sure the faucets nedenpå priming tank is closed

START THE PUMP PRIMING

1 Check the lights on the control cabinet for priming the pump is on.
2 Check for priming the pump turned in the right direction. See arrows on the pump. (If priming pump is turned in the wrong direction, viringen for pump control cabinet exchanged.)
3 Run the priming pump until water flows out of the assault.

TURN ON MAIN PUMP

TURN OF PRIMING PUMP

1 Check the lights on the control cabinet for the main pump is on.
2 Make sure the belts are not slipping.
3 Run the engine up to the desired speed.
4 If the pump sucks air to priming the pump runs while the main pump. The pump will shake if there is air in the system, in this case executable priming pump.
5 For optimal use, it is very important that the pump sucks air, carefully check all connections and hoses on the suction side.

4.2 Maintenance

After the first 24 hours of use:

1 Check the belts have proper tension

Daily Maintenance:

1 Flush the pump and motor with fresh water
2 Check Camlock transitions.
3 Check mechanical parts.

Weekly maintenance:

1 Lubricate the wheel bearing.
2 Make sure nothing is stuck in the box that hides the belts. Check if the belts are ok.
3 Check the air in your tires.
4 Check all hoses for leaks and transitions.
5 Lubricate the bearing on the pump shaft (below the pump house). IMPORTANT: before grease is pumped into the screw on the opposite side of the shaft removed. This screw is put in place afterwards.

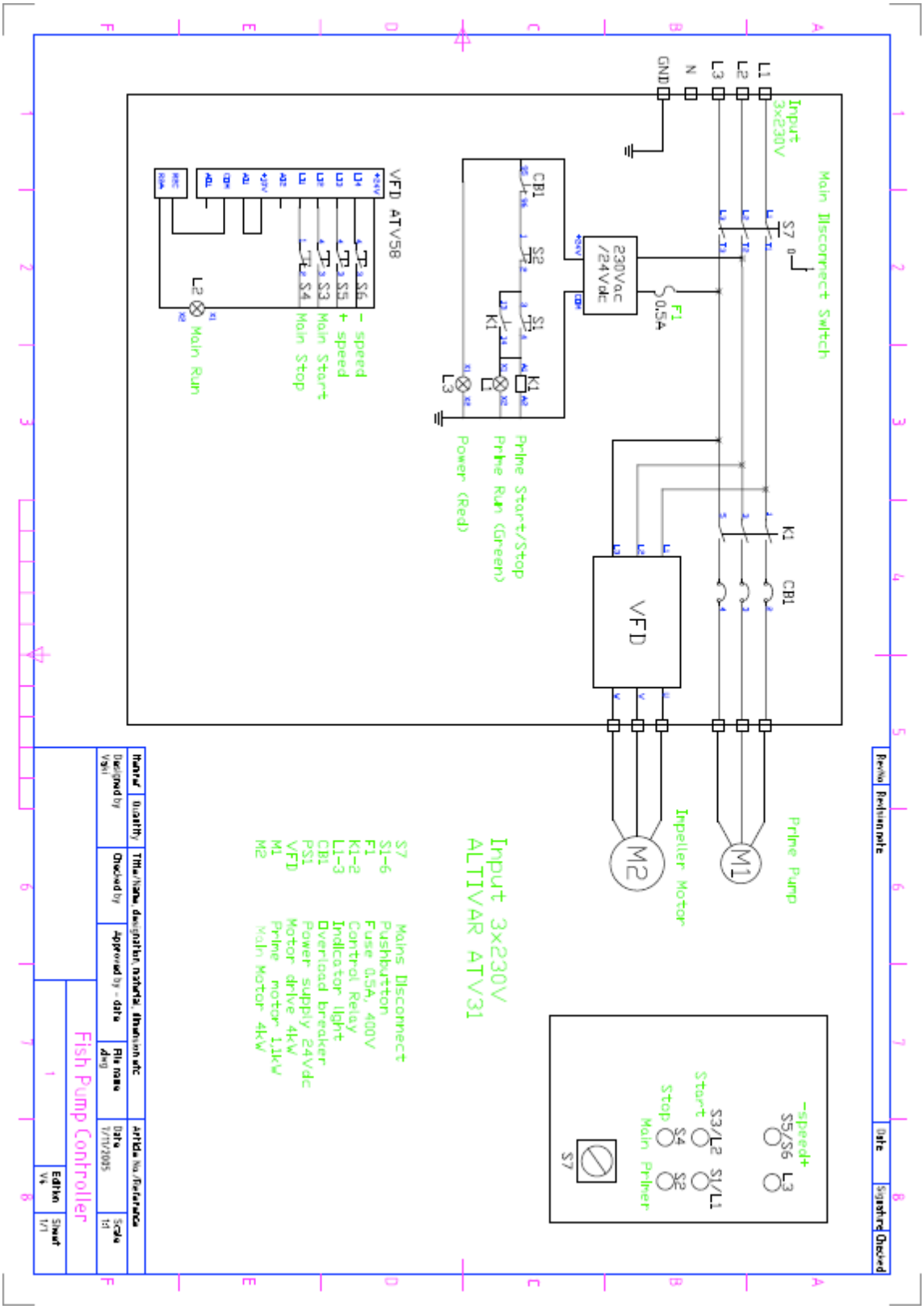
To switch on the remote control to the pump:

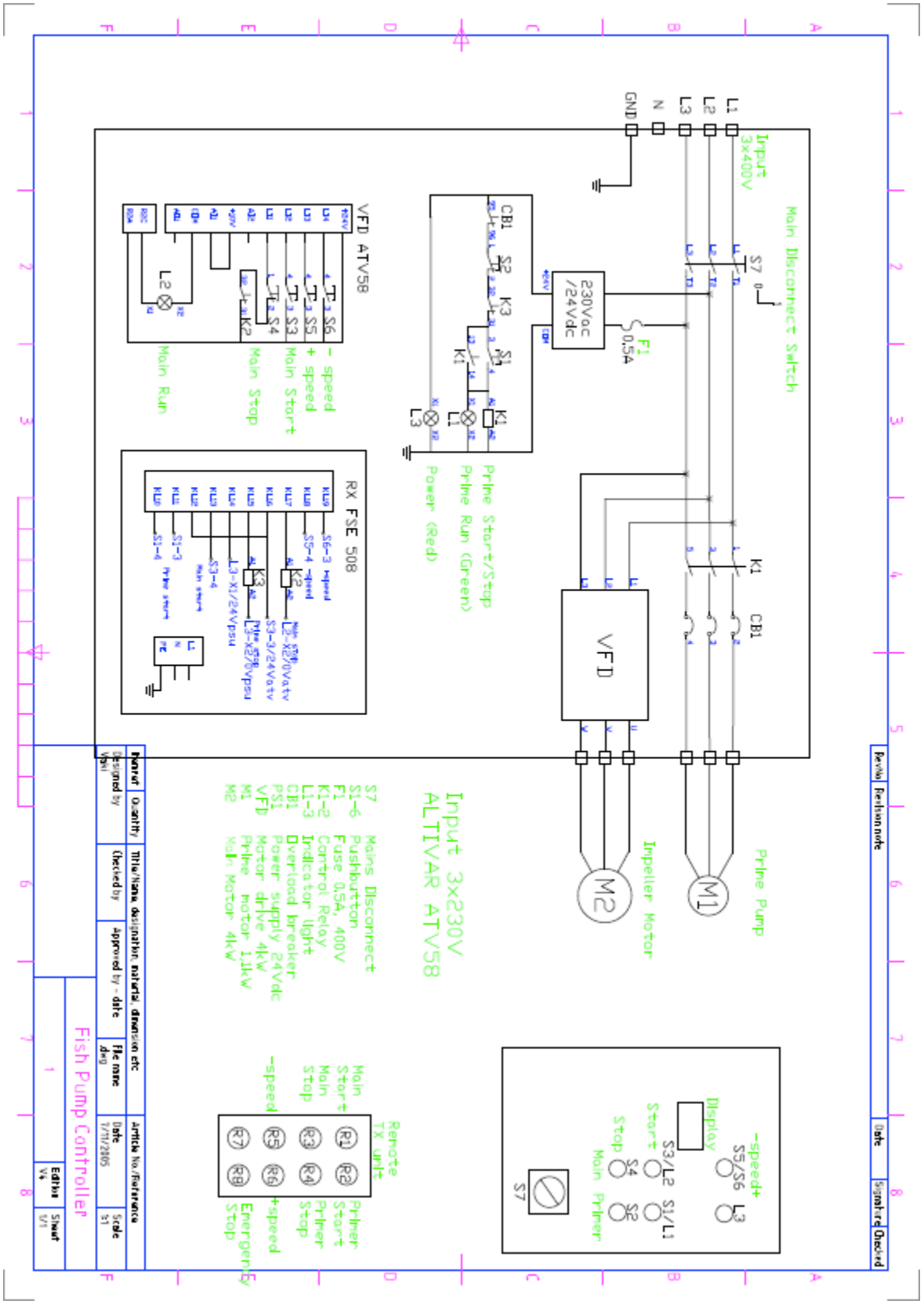
First, press the POWER button,

so STOP button,

so POWER button again. (Child)

Hand terminal will start blinking green.


Input 3x230V
L1
L2
L3
N
GND
Main Disconnect Switch
S7
F1 0.5A
230Vac /24Vdc
CB1
S2
S1
K1
L3
Power (Red)
Prime Run (Green)
Prime Start/Stop
VFD ATV58
L2
Main Run
S3
Main Start
S4
Main Stop
S5
+ speed
S6
- speed
VFD
K1
CB1
M2
M1
Impeller Motor
Prime Pump
-speed+
S5/S6
S3/L2
Start
S4
Stop
S1/L1
S2
Main Primer
S7
Input 3x230V
ALTIVAR ATV31
S7 Mains Disconnect
S1-6 Pushbutton
F1 Fuse 0.5A 400V
K1-2 Control Relay
L1-3 Indicator light
CB1 Overload breaker
PS1 Power supply 24Vdc
VFD Motor drive 4kw
M1 Prime motor 1.1kw
M2 Main Motor 4kw
Fish Pump Controller
Edition
Sheet
Scale
Date
File name
Approved by - date
Checked by
Designed by
Revision
Revision note
Date
Signature
Checked


Input 3x400V
GND
N
L3
L2
L1
Main Disconnect Switch
S7
230Vac /24Vdc
F1 0,5A
CB1
K3
K1
K2
S1
S2
L3
L1
K1
Prime Start/Stop
Prime Run (Green)
Power (Red)
VFD ATV58
L2
Main Run
Main Stop
Main Start
+ speed
- speed
RX FSE 508
VFD
K1
CB1
M2
M1
Impeller Motor
Prime Pump
Input 3x230V
ALTIVAR ATV58
S7 Mains Disconnect
S1-6 Pushbutton
F1 Fuse 0,5A, 400V
K1-2 Control Relay
L1-3 Indicator light
CB1 Overload breaker
PS1 Power supply 24Vdc
VFD Motor drive 4kW
M1 Prime motor 1,1kW
M2 Main Motor 4kW
Remote TX unit
Main Start
Main Stop
-speed
+speed
Prime Start
Prime Stop
Emergency Stop
-speed+
S5/S6
Display
S3/L2
Start
Stop
S4
Main Prime
S1/L1
S2
S7
Fish Pump Controller